

NWS FORM E-5 (11-88) (PRES. by NWS Instruction 10-924)	U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE	HYDROLOGIC SERVICE AREA (HSA) WFO Jackson, Mississippi
MONTHLY REPORT OF HYDROLOGIC CONDITIONS		REPORT FOR: MONTH YEAR October 2010
TO: Hydrometeorological Information Center, W/OH2 NOAA / National Weather Service 1325 East West Highway, Room 7230 Silver Spring, MD 20910-3283		SIGNATURE Alan E. Gerard, Meteorologist In-Charge DATE 11/17/2010

When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924)

☒ An X inside this box indicates that no river flooding occurred within this hydrologic service area.

Synopsis...

October was another dry month across most all of the Hydrologic Service Area (HSA). There were 3 periods of rainfall during the month 11th-12th, 19th-20th, and the 24th-27th. Only a small portion of Rankin, Lauderdale, and Kemper Counties in Mississippi had above normal rainfall totals for the month.

The month began with high pressure in control. A dry cold front rapidly moved across the area on the 3rd, reinforcing the pattern of high pressure across the region. Dry and pleasant weather continued across the HSA through the 10th.

High pressure moved east of the area on the 11th producing a return flow of moist air from the Gulf of Mexico. A cold front pushed across the HSA on the 12th producing some large hail in Northeast Louisiana and Southeast Arkansas and damaging winds to some Central and North Mississippi counties. The front stalled along the Louisiana/Mississippi Coastal Region awaiting an upper level disturbance that would move eastward across the area from the evening of the 13th into the morning of the 14th. Rainfall totals from the 12th into the 13th were less than 0.50 inches; however, scattered areas had amounts from 1.00 to 2.00 inches. High pressure built into the region from the 14th to the 15th. During the day on the 15th, a fast moving dry cold front pushed across the area. High pressure moved into the area through the 17th.

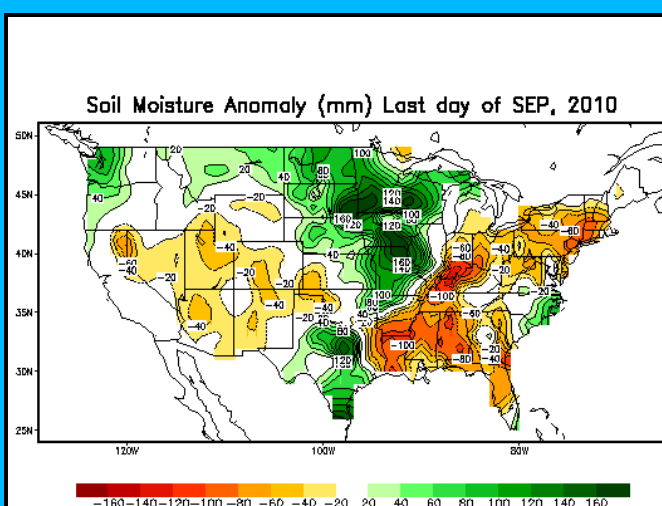
The high pressure center moved eastward on the 18th allowing moist air to return from the Gulf. A cold front dropped slowly southward across the region on the 19th and 20th. Some heavy thunderstorms over southern portions of Northeast Louisiana and Southwest Mississippi produced dangerous lighting and damaging winds. Rainfall from 0.50 to 3.00 inches occurred over Northeast Louisiana and Southwest Mississippi. The remainder of the HSA had 0.25 inches or less with the exception of our northeast counties in Mississippi where 0.25 to 1.50 inches occurred. Some heavier 24 hour rainfall totals ending at 7am on the 20th: 3.10 inches in Natchez, LA and 2.50 inches in Clayton, LA.

High pressure built into the HSA from the 21st into 22nd. As the high shifted east, winds shifted from the north, to east, and around to the south by the 24th. An upper level trough with an associated cold front moved through the area late on the 24th bringing rainfall from 0.25 to 1.50 inches north of I-20 with some isolated 2.00 to 4.00 inches totals across Southeast Arkansas and Washington and Bolivar Counties in Mississippi. The only rainfall reported south of I-20 was in Southeast Mississippi where less than 0.25 inches fell. Warm, humid air rushed into the region on the 25th ahead of a fast moving cold front in the southwestern U.S. By the morning of the 26th, the cold front was approaching Southeast Arkansas. The front slowed as it entered the HSA, only approaching a Vicksburg to Columbus line by morning of the 27th and moving off the Southeast Mississippi Coast by the morning of the 28th. The heaviest rainfall occurred within a triangle from Vicksburg to Columbus to Meridian where rainfall amounts ranged from 0.75 to 3.00 inches. Outside of this area, rainfall was less than 0.50 inches with some isolated amounts from 2.00 to 3.00 inches. Some heavier 24 hour rainfall totals ending at 7am on the 28th: 3.09 inches at Goshen Springs, MS; 2.62 inches at Newton, MS; 2.29 inches at Philadelphia, MS. High pressure remained in control of the weather pattern through the end of the month.

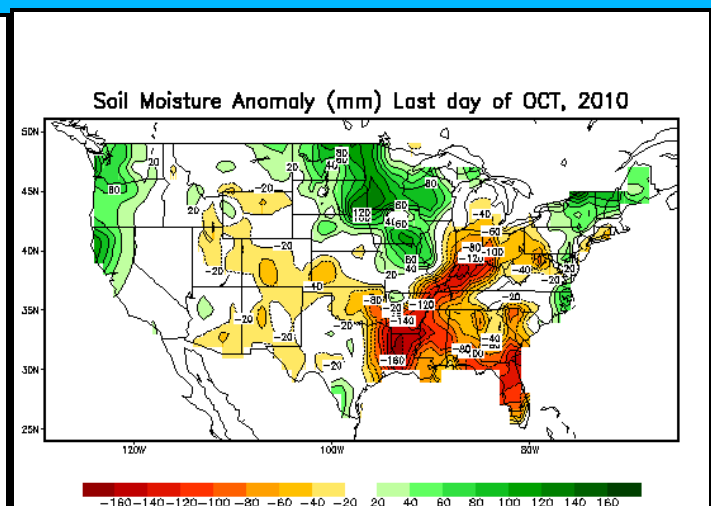
River and Soil Conditions...

The driest locations in the HSA during the month were across portions of South and Southeast Mississippi where rainfall ranged from 10 to 25 percent of normal. Rainfall ranged from 20 to 50 percent of normal across northern portions of Northeast Louisiana and into the Lower Yazoo Delta and into North Central Mississippi.

Soil moisture continued to drop across the entire HSA. Soil moisture deficits of 4.00 to 6.00 inches were common across Northeast Louisiana, Southeast Arkansas, and western portions of Mississippi. Soil moisture deficiencies over the remainder of Mississippi ranged from 3.00 to 4.00 inches.



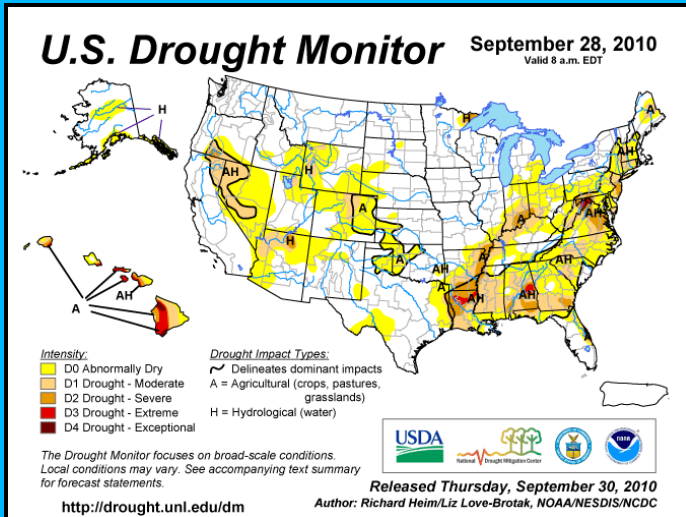
Last day of September, 2010



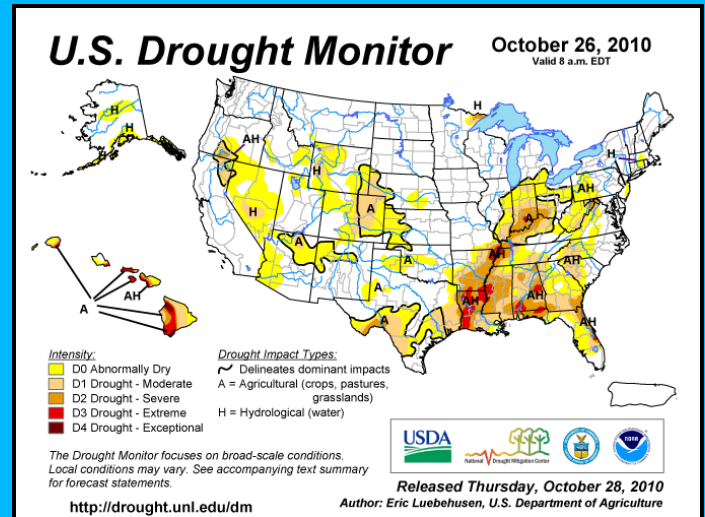
Last day of October, 2010

Soil Moisture anomaly (departure from normal): (25.4mm = 1 inch)

A comparison of the September 28th U.S. Drought Monitor to the October 26th U.S. Drought Monitor showed drought conditions worsening across the HSA. Extreme Drought (D3) spread across northern portions of Northeast Louisiana and into West Mississippi. Severe Drought (D2) increased across much of Mississippi and southern portions of Northeast Louisiana. Moderate Drought (D1) remained over portions of Southeast Mississippi.

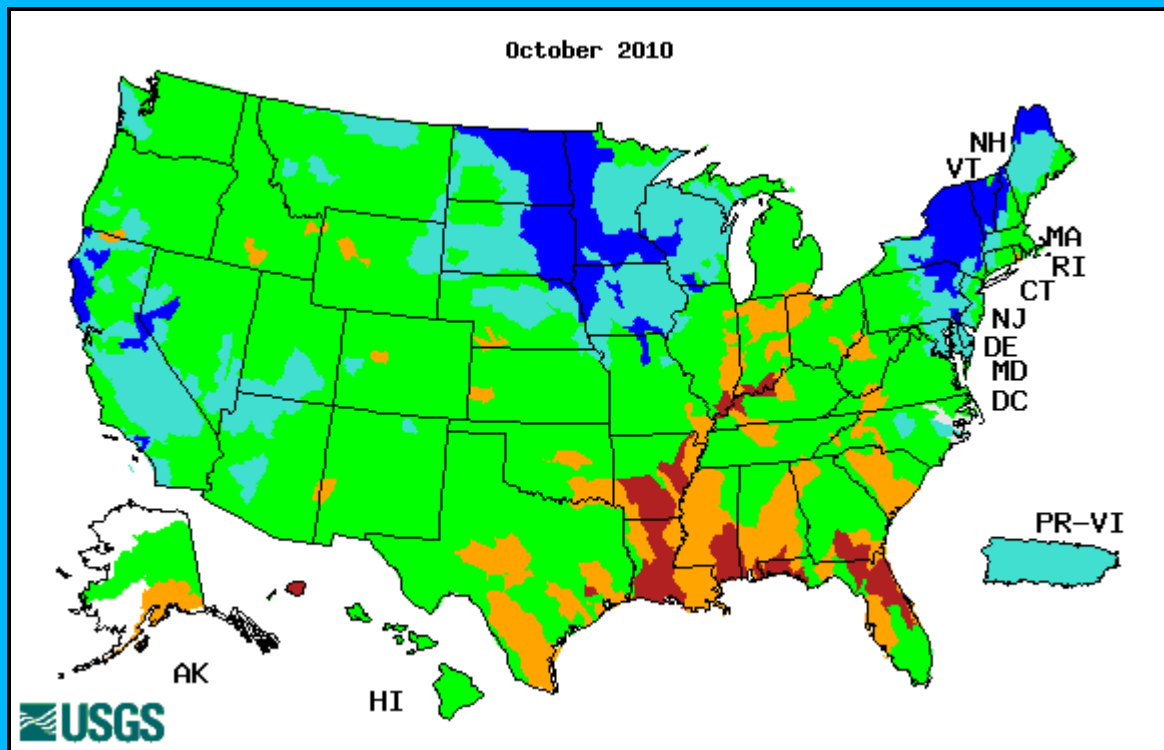


SEPTEMBER 28, 2010



OCTOBER 26, 2010

The United States Geological Survey's (USGS) October 2010 river streamflow records were compared with all historical October streamflow records. The Pascagoula River had much below normal streamflow while the remainder of the river systems had below normal streamflow.



Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

No river flooding was reported during the month. River stages dropped or remained steady during the month.

The Mississippi River experienced a minor rise as the beginning of the month and then continued to fall during the remainder of the month.

Based on current soil moisture conditions, current streamflow conditions, and an expected below normal rainfall pattern across the HSA over the next 60 to 90 days:

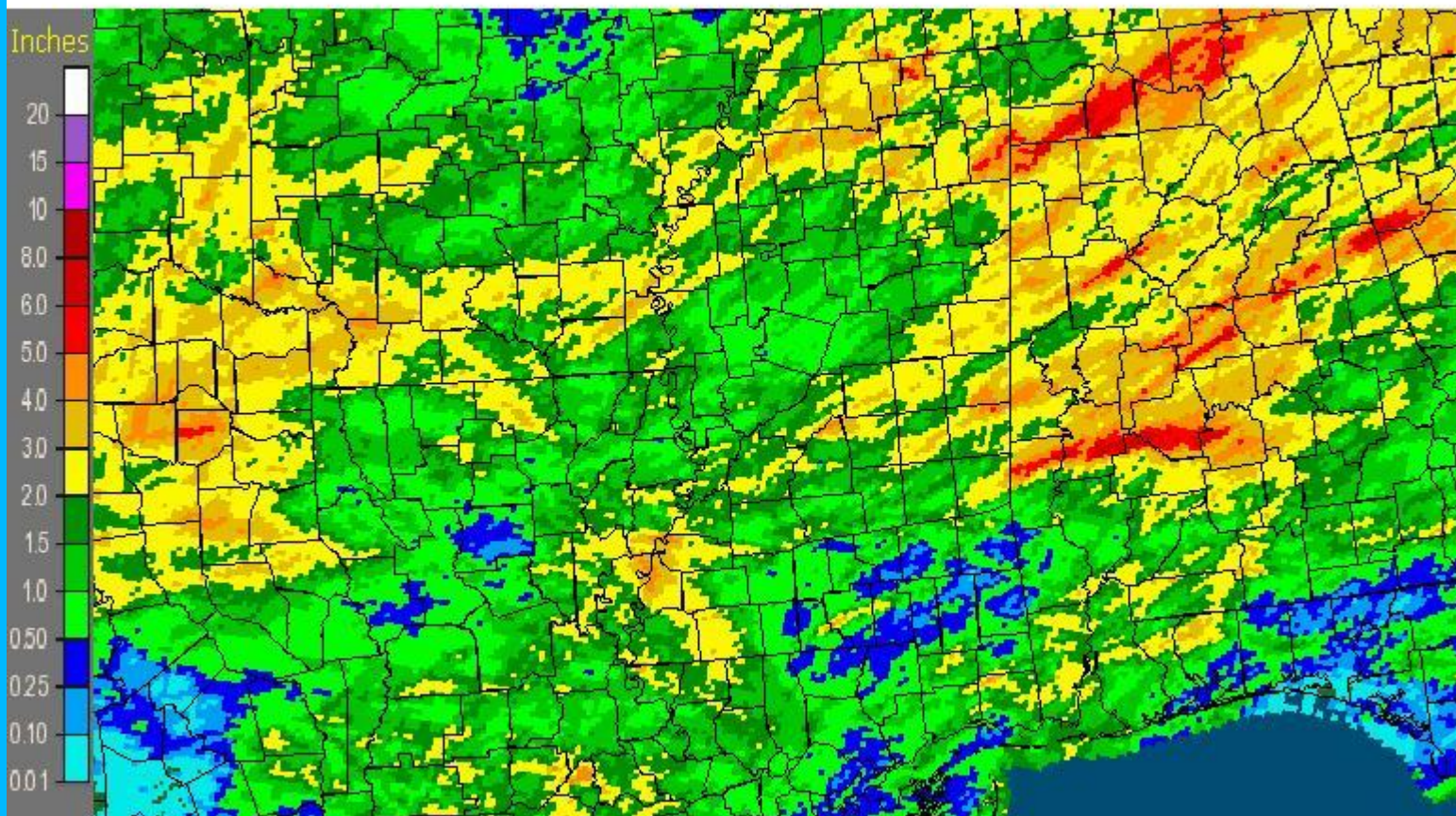
<i>Pearl River System:</i>	Below Normal.
<i>Yazoo River System:</i>	Below Normal.
<i>Big Black River System:</i>	Below Normal.
<i>Homochitto River System:</i>	Below Normal.
<i>Pascagoula River System:</i>	Below Normal.
<i>Northeast LA and Southeast AR:</i>	Below Normal.
<i>Tombigbee River System:</i>	Below Normal.
<i>Mississippi River:</i>	Normal.

Rainfall for the month of October

The largest rainfall amounts in the HSA from NWS Cooperative Observer reports during the period from 7 am on September 30th until 7 am on October 31st were: 5.27 inches at Goshen Springs, MS; 5.20 inches at Natchez, MS; 4.70 inches at Clayton, LA; 3.66 inches at Crawford, MS; 3.65 inches at Philadelphia, MS; 3.33 inches at Newton, MS; and 3.22 inches at Cleveland, MS.

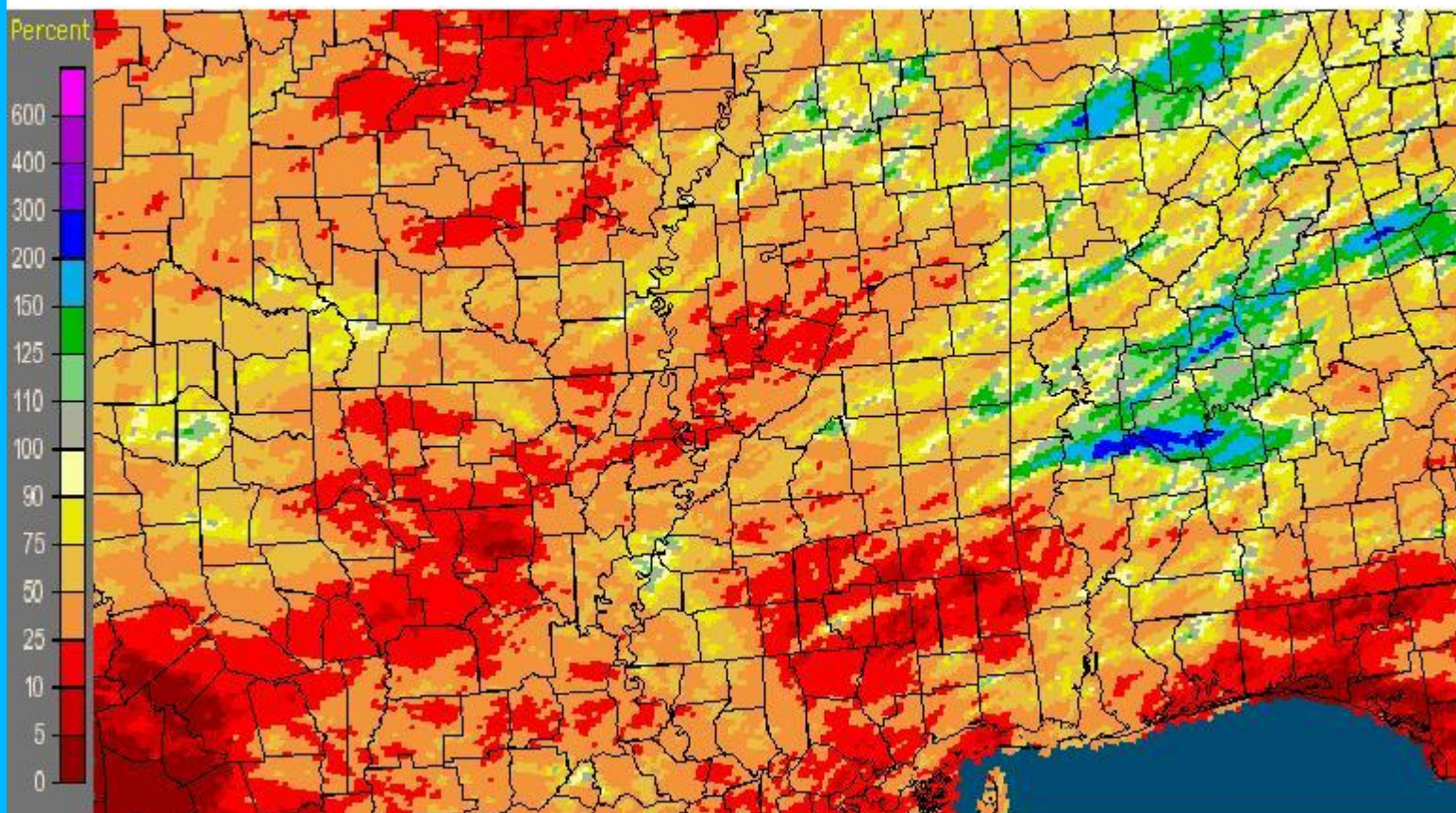
The lowest rainfall totals in the HSA were: 0.12 inches at Hattiesburg, MS; 0.25 inches at Sumrall, MS; 0.37 inches at Prentiss, MS; 0.47 inches at Purvis, MS; 0.51 inches at Brookhaven, MS; and 0.53 inches at Pat Harrison Waterway's Big Creek Water Park, MS.

Mississippi: October, 2010 Monthly Observed Precipitation
Valid at 11/1/2010 1200 UTC- Created 11/3/10 21:39 UTC



October 2010 Rainfall Estimates

Mississippi: October, 2010 Monthly Percent of Normal Precipitation
Valid at 11/1/2010 1200 UTC- Created 11/3/10 21:44 UTC



October 2010 Percent of Normal Rainfall Estimates

Note: Observer rainfall and MPE may differ due to time differences.

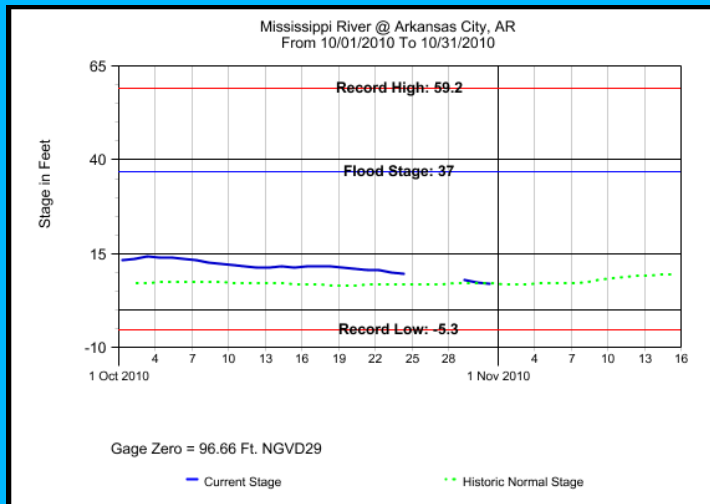
October rainfall for Selected Cities...

City (Airport)	October Rainfall	Departure from normal	2010 Rainfall	2010 Departure from Normal
Jackson, MS	2.04	-1.38	37.32	-8.25
Meridian, MS	1.81	-1.40	35.32	-13.07
Greenwood, MS	1.22	-2.34	28.49	-15.70
Greenville, MS	3.48	+0.09	23.60	-19.75
Hattiesburg, MS	0.33	-3.24	36.38	-15.55
Vicksburg, MS	0.54	-3.21	26.58	-20.77

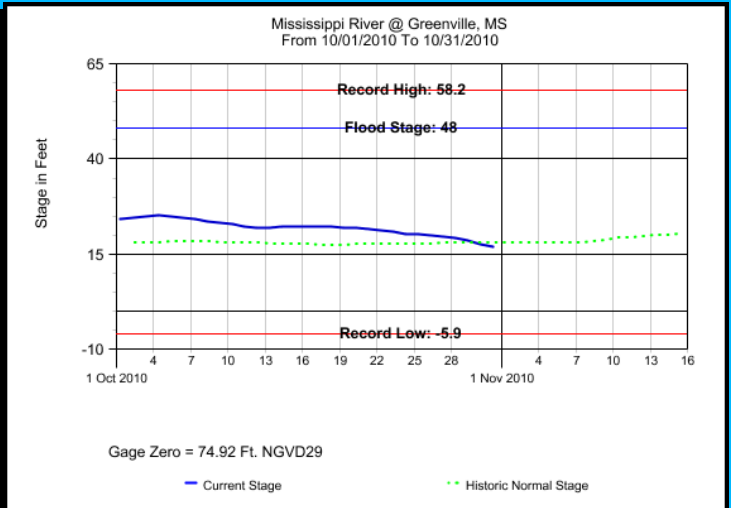
Mississippi River...

Mississippi River Plots for October, 2010

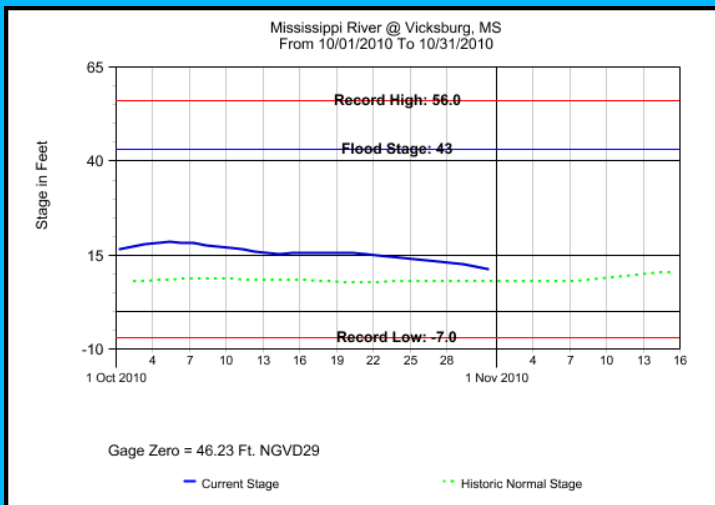
Plots Courtesy of the United States Army Corps of Engineers



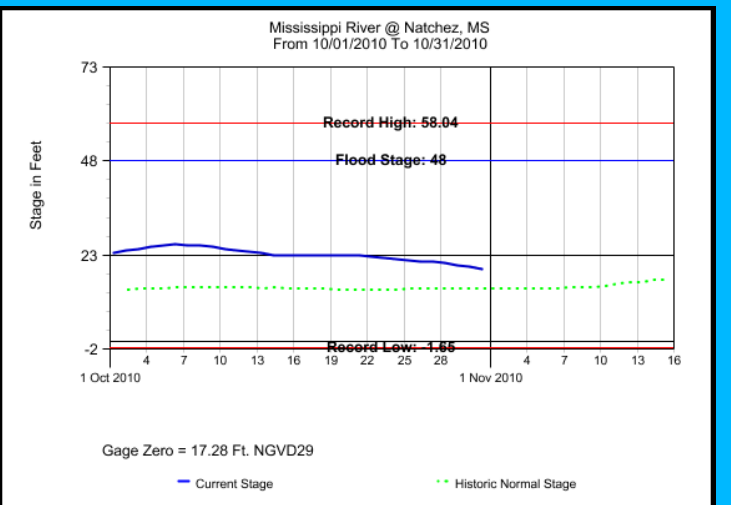
ARKANSAS CITY, MS



GREENVILLE, MS



VICKSBURG, MS



NATCHEZ, MS

Preliminary high and low stages for the month:

Location	FS	High Stage(ft)	Date	Low Stage(ft)	Date
Arkansas City, AR	37	14.17	10/04/10	6.78	10/31/10
Greenville, MS	48	25.10	10/04/10	16.86	10/31/10
Vicksburg, MS	43	18.52	10/05/10	10.67	10/31/10
Natchez, MS	48	25.76	10/06/10	18.86	10/31/10

Total Flood Warning products issued: 0
 Total Flood Statement products issued: 0
 Total Flood Advisories MS River : 0
 Daily Rainfall Products (RRA'S) issued: 31
 Daily River Forecast Products (RVS'S) issued: 31
 Daily River Stage products (RVA'S) issued: 31

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Service Hydrologist

&

Latrice Maxie

Assistant Hydrologist/Observing Program Leader (OPL)

Note: Provisional stage and precipitation data were furnished with the cooperation of the Mississippi, Louisiana, and Arkansas National Weather Service Cooperative Observer Programs, United States Geological Survey (USGS), United States Army Corps of Engineers (USACE), Pearl River Valley Water Supply District (PRVWSD), Pat Harrison Waterway District, Pearl River Basin Development District, and the Mississippi Department of Environmental Quality.

cc: USGS Little Rock District
 USGS Ruston District
 USACE Mobile District
 USACE Vicksburg District
 USACE Mississippi Valley Division
 USGS Mississippi District
 SRH Climate, Weather and Water Division
 Lower Mississippi River Forecast Center
 Pearl River Valley Water Supply District
 Hydrologic Information Center
 Southern Region Climate Center
 Pat Harrison Waterway District
 Pearl River Basin Development District